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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/824,024	04/14/2004	Billy W. McDaniel	2003-IP-012882U1	5994
71/407	7590	03/19/2008		
ROBERT A. KENT P.O. BOX 1431 DUNCAN, OK 73536			EXAMINER FULLER, ROBERT EDWARD	
			ART UNIT 3676	PAPER NUMBER
			NOTIFICATION DATE 03/19/2008	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/824,024

Applicant(s)

MCDANIEL ET AL.

Examiner

ROBERT E. FULLER

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 February 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,8-11,13-31,35-41 and 43-67 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,8-11,13-31,35-41 and 43-67 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. Applicant's submission, filed February 5, 2008, has been fully considered.

Examiner maintains the prior art rejection set forth in the previous office action.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
3. Claims 1-3, 8-11, 13-25, 31, 35-41, 43-54, and 57-65 are rejected under 35 U.S.C. 103(a) as being unpatentable over Whiteley (US 6,006,838) in view of Akinlade (WO 03/048508).

With regard to claims 1-3, 9, 11, 14, 16-18, 21-25, 31, 35-37, 39, 41, 44-47, 50-54, 57, and 61, Whiteley discloses a method of "selectively stimulating multiple production zones or intervals within a subterranean oil or gas well in a single trip" (column 2, lines 47-48). Whiteley further teaches that his apparatus can be interconnected with a drill string (column 3, lines 14-18). The stimulating step

comprises jetting a stimulation fluid through ports, or nozzles (24) at a pressure sufficient to create a cavity in the section of the subterranean formation (see column 4, lines 44-47 and figure 3). Whiteley also teaches shutting the annulus between the drill string and the wellbore wall using a packer (3). The ports (24) are opened by a sliding sleeve (22).

Examiner notes that Whiteley explicitly discloses matrix acidizing as the stimulation method, and does not explicitly disclose fracturing, though they both fall within the definition of "stimulation" methods, according to the Schlumberger Oilfield Glossary (citation attached to this office action). Examiner points out that "acid fracturing" is a variation of matrix acidizing that simply takes place above the formation fracture pressure, according to paragraph 0004 of Saini et al. (US 2008/0035341). Therefore, though Whiteley mentions only matrix acidizing, it would have been considered obvious that Whiteley's device was also capable of acid fracturing, simply depending on the pressure at which the acid was injected into the formation, and furthermore because matrix acidizing and acid fracturing are simply obvious variations of stimulation techniques.

While Whiteley discloses the use of his system with drillpipe, Whiteley fails to explicitly disclose the use of his system during a rotary drilling application in conjunction with a drill bit.

Akinlade discloses "a method of injecting a stream of treatment fluid into an earth formation in the course of drilling a borehole into the earth formation" (see abstract). However, Akinlade's system is not used for *stimulating* a wellbore, rather it is for *sealing*

a wellbore. That said, Akinlade does teach a method of injecting fluid into a formation during a drilling operation.

All of the component parts of the method are known, i.e. stimulating a formation using a stimulation tool interconnected with a drill string, and injecting treatment fluid during a rotary drilling operation. What is not shown is stimulating a formation during a rotary drilling operation.

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have combined the methods of Whiteley and Akinlade so that the formation could be stimulated during a rotary drilling operation without tripping out of the borehole, since there appears to be nothing precluding the apparatus of Whiteley from being used in conjunction with the drill bit shown by Akinlade.

With regard to claims 8, 10, 19, 20, 38, 40, 48, 49, 58-60, and 62-65, a "second fluid" could comprise drilling fluid, which could contain many different types of additives to enhance the stimulation of the formation and clean the formation. Furthermore, the drilling fluid could be pumped at a pressure sufficient to enlarge the cavity formed by the initial fluid injection.

With regard to claims 13, 15, and 43, Whiteley in view of Akinlade fails to disclose the stimulation fluid being an unweighted drilling fluid, nor does Whiteley in view of Akinlade disclose the stimulation fluid being a relative permeability modifier.

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have used, in conjunction with Whiteley's device, a stimulating fluid with a chemistry similar to that of drilling fluid, said fluid being an

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unweighted drilling fluid or a relative permeability modifier, as the examiner hereby takes official notice that it was notoriously conventional in the art to have used drilling fluids with a multitude of additives to both stimulate formations as well as prevent drilling fluid loss into formations.

4. Claims 26, 27, 30, 55, and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Whiteley in view of Akinlade as applied to claims 1 and 31 above, and further in view of Soliman (US 5,111,881).

Whiteley in view of Akinlade fails to disclose sealing the treated formation using a degradable sealant, a fluid, or a solid.

Soliman teaches a method of sealing a treated subterranean formation. Soliman teaches the use degradable sealants such as polysaccharides (column 6, lines 43-63).

It would have been considered obvious, at the time the invention was made, to have sealed the formation treated by the device of Whiteley in view of Akinlade with the plugging agents disclosed by Soliman, in order to have provided temporary protection for the treated formations from the pressurized fluids introduced into the well bore as the drilling operations continued.

5. Claims 26-29, 55, and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Whiteley in view of Akinlade as applied to claims 1 and 31 above, and further in view of Guinn (US RE27,459).

Whiteley in view of Akinlade fails to disclose sealing the treated formation using a degradable sealant, a fluid, or a solid.

Guinn teaches a method of sealing a treated subterranean formation. Guinn further teaches the use of fluids such as cement (column 4, lines 50-52), and solids such as salt and paraffin beads (column 4, lines 38-39).

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have sealed the formation treated by the device of Whiteley in view of Akinlade with the plugging agents disclosed by Guinn, in order to have protected the formations which had been treated from the pressurized fluids introduced into the well bore as the drilling operations continued.

6. Claims 66 and 67 are rejected under 35 U.S.C. 103(a) as being unpatentable over Whiteley in view of Akinlade as applied to claim 1 above, and further in view of Dawson et al. (2003/0083403).

Whiteley in view of Akinlade fails to explicitly disclose injecting the second fluid simultaneously with the fracturing fluid.

Dawson teaches that fracturing fluid typically contains various additive fluids (see paragraphs 0051 and 0057).

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have injected an additive fluid simultaneously with the fracturing fluid in the method of Whiteley in view of Akinlade, as these additives would have accomplish additional tasks, such as inhibiting corrosion or stabilizing the formation, without the second step of injecting a separate fluid into the formation, thereby saving both time and money.

Response to Arguments

7. Applicant's arguments filed February 5, 2008 have been fully considered but they are not persuasive. Applicant has argued that Whiteley does not teach fracturing, and that Akinlade does not make up for that lack of a teaching, because Akinlade teaches sealing a formation, not fracturing or stimulating a formation.

Examiner respectfully traverses applicant's arguments. With respect to the Whiteley reference, as discussed above, Whiteley teaches matrix acidizing, which is simply a type of stimulation method where the acid is injected at a pressure below formation fracture pressure. In acid fracturing, another stimulation method, the acid is injected at a pressure above formation pressure. Therefore, simply increasing the injection pressure in the method of Whiteley would make the formation fracture. In fact, using the method of Whiteley, one could easily fracture the formation unintentionally if the fracture pressure of the formation was unknown or overestimated. In sum, the fact that Whiteley does not explicitly teach fracturing would not lead one of ordinary skill in the art to believe that his device was not capable of fracturing.

With respect to the Akinlade reference, examiner has brought in the Akinlade reference merely for its teaching of injecting a fluid during a drilling operation. The fact that the injected fluid is a sealing fluid is immaterial. The Whiteley reference provides the teaching of stimulating the wellbore with a stimulation tool interconnected with drill pipe. The Akinlade reference provides the teaching of a fluid injection tool interconnected with a drill string and drill bit, that is capable of injecting fluid at multiple zones in a wellbore during a drilling operation.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT E. FULLER whose telephone number is (571)272-0419. The examiner can normally be reached on Monday thru Friday from 8:00 AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer H. Gay can be reached on 571-272-7029. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jennifer H Gay/
Supervisory Patent Examiner, Art
Unit 3676

03/07/2008

REF